

What is claimed is:

1. An isolated TGF-beta receptor fusion protein that comprises a splice variant of TGF-beta receptor, the fusion protein competitively inhibiting binding of TGF-beta to TGF-beta receptor.
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2. The fusion protein of claim 1, comprising the splice variant of TGF-beta Type II receptor linked to a second protein that is not a TGF-beta receptor.
3. The fusion protein of claim 2, wherein the second protein is a constant region of an
10 immunoglobulin.
4. The fusion protein of claim 3, comprising SEQ ID NO: 2.
5. An isolated TGF-beta receptor fusion protein encoding, on expression, for a
15 polynucleotide sequence comprising SEQ ID NO: 1.
6. The isolated TGF-beta receptor fusion protein of claim 5, comprising SEQ ID NO: 2.
7. An isolated polynucleotide encoding, on expression, for a splice variant form of TGF-
20 beta Type II receptor linked to a second protein that is not a TGF-beta receptor.
8. The isolated polynucleotide of claim 7, comprising SEQ ID NO.1.
9. A composition comprising a splice variant form of TGF-beta receptor fusion protein
25 comprising SEQ ID NO: 2 in a pharmaceutically acceptable carrier, the fusion protein in an amount sufficient to competitively inhibit binding of TGF-beta to a TGF-beta ligand.
10. A vector comprising the polynucleotide sequence of claim 7.
- 30 11. A host cell containing the vector of claim 10.

12. A method for producing a variant form of TGF-beta receptor fusion protein, comprising culturing the host cell of claim 11, allowing said cell to express the fusion protein, isolating and purifying the fusion protein.

5 13. A method for lowering the levels of TGF-beta in an individual in need thereof which comprises administering to said individual a TGF-beta-lowering amount of a TGF-beta antagonist that is a TGF-beta receptor fusion protein comprising amino acid residues 1 to 185 of SEQ ID NO:2.

10 14. A method for lowering the levels of TGF-beta in an individual having arthritis, which comprises administering to said individual an effective amount of a TGF-beta antagonist that is a TGF-beta receptor fusion protein comprising amino acids 1 to 185 of SEQ ID NO:2.

15 15. A method for treating an individual for a medical condition associated with TGF-beta overproduction comprising the step of administering to the individual a TGF- beta Type II receptor fusion protein comprising amino acids 1 to 185 of SEQ ID NO: 2 .

20 16 The method of claim 15, wherein the TGF- beta receptor fusion protein is administered by a method selected from the group consisting of intravenous, intraocular, intraarticular, transdermal, and enteral administration.

17. The method of claim 15, wherein said medical condition comprises a fibroproliferative disorder.

25 18 The method of claim 17, wherein said fibroproliferative disorder comprises a fibrosis selected from the group consisting of kidney, intraocular, and pulmonary fibrosis.

30 19. The method of claim 17, wherein said fibroproliferative disorder is selected from the group consisting of diabetic nephropathy, glomerulonephritis, proliferative vitreoretinopathy, and myelofibrosis.

20. The method of claim 17, wherein said fibroproliferative disorder is a collagen vascular disorder selected from the group consisting of systemic sclerosis, polymyositis, scleroderma, dermatomyositis, or systemic lupus erythematosus.

- 5 21. A method for treating an individual having a fibrotic condition associated with restenosis, comprising the step of administering to the individual a TGF- beta Type II receptor fusion protein having an amino acid sequence comprising amino acids 1 to 185 of SEQ ID NO: 2.

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